

Marshall Ready to Meet International Quality Standards

by Steve Calatrello

The Marshall Center has shown it is “world class” and can be counted on to provide customers throughout the world with quality products and services, Center Acting Director Carolyn Griner said last week in announcing that Marshall will be recommended for certification in ISO 9001.

Auditors certified by the International Organization for Standardization spent three days last week assessing how well Marshall’s Quality Management System measures up to ISO 9001.

This is a set of international standards used to evaluate organizations whose business processes range from design and development to production and installation.

Auditors found no major non-conformances, only 13 minor non-conformances and seven observations -- minor areas for improvement.

Marshall implemented its Quality Management System to meet ISO 9001 standards and guidelines
see ISO 9001 on page 5



Acting Center Director Carolyn Griner (standing second from left) and Associate Director (Technical) Bob Schwinghamer (standing fourth from left) are shown with registrars from National Quality Assurance, USA after the team recommended the Marshall Center for ISO 9001 certification. Shown seated from left are Judd Lunt and Joe Grieco. Shown standing from left are Mark Stevens, Griner, Lee Bravener, Schwinghamer and Jim Dozier.
Photo by Terry Leibold

Marshall Contributed \$768M to State's Economy in FY'97

by Steve Calatrello

The Marshall Center contributed \$768 million to Alabama’s economy during fiscal year 1997.

That total includes \$223 million in salaries for civil service personnel and related costs. It also includes \$545 million spent on locally procured services, prime and subcontractor support here, local construction and activities performed on behalf of other federal agencies, private industry, and foreign governments. In addition, approximately \$65 million in retirement annuities were paid to 2,502 Marshall retirees residing in Alabama, with some \$38 million of that going to the 1,469 retirees living in Huntsville.

The \$768 million spent in Alabama by the Marshall Center was more than its expenditures in any other state. NASA spent an additional \$315 million locally for International Space Station hardware development by Boeing-Huntsville, but this was funded outside Marshall’s budget.

During fiscal year 1997, the Marshall Center received

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Astronaut Roger Crouch helps kick off Huntsville Space Week at East Clinton Elementary School during a ceremony Monday. Shown with Crouch is East Clinton fifth grader Justin Erskine who won a Space Camp scholarship for his essay on space.
Photo by Emmett Given

March is Women's History Month

Editor's Note: The following is a letter from NASA Administrator Daniel Goldin recognizing March as National Women's History Month.

NASA will be observing National Women's History Month in March, as well as the 150th Anniversary of the Women's Rights Movement, which will be celebrated throughout 1998.

The national theme for National Women's History Month, "Living the Legacy of Women's Rights," refers to the many ways in which women's lives have changed because of the Women's Rights Movement. The freedoms and opportunities women now have are the results of the risks and sacrifices of our foremothers. The Women's Rights Movement has had a profound impact on all aspects of American life. It has opened new and well-deserved opportunities for women in all fields of endeavor, including commerce, athletics, business, education, religion, the arts, engineering and scientific exploration.

Today, women of all ages are living the legacy of women's rights that seven generations of women before them have given their best to achieve.

I fully support the observance of National Women's History Month and the celebration of the 150th Anniversary of the Women's Rights Movement. I encourage everyone at NASA to mark not only this month but the entire year with appropriate programs, ceremonies, and activities that will highlight the contributions of the unsung heroines who helped to make our Nation strong and a leader throughout the free world.

Daniel S. Goldin



Dr. Audrey Manley (middle), president of Spelman College in Atlanta, Ga., toured the Marshall Center recently as part of her visit to Huntsville to participate in the University Research Center Technical Conference. Manley is shown with Dr. Ann Whitaker (left), director of Marshall's Materials and Processes Laboratory and Gail Gordon of EH33. Photo by Emmett Given

NASA Emerged Amid Host of Issues

Editor's Note: Oct. 1, 1998, will mark the 40th anniversary of the National Aeronautics and Space Administration (NASA). This year the Marshall Center will join other NASA centers in marking the anniversary. The article which follows is Part two of a two-part look back at how and why NASA and the Marshall Center came into being.

*by Mike Wright
Marshall Center Historian*

With the Jan. 31, 1958, successful launch of Explorer I using a Jupiter C modification of the Redstone rocket, Dr. Wernher von Braun and his team had conquered the initial technical challenges associated with space exploration. But there were other questions related to the future role of the United States space program that American leadership had to answer. One of the most contentious issues involved what agency within the government would manage the space program. Interest also centered on whether to create a single agency to handle the Nation's space program. The debate also focused on whether that Agency would be a military or a civilian organization. On February 4, 1958, President Eisenhower directed James R. Killen, Jr. to head a committee to study and make recommendations on the governmental organization of the Nation's space program. Two days later, the Senate passed a resolution creating a Special Committee on Space and Astronautics. The President and Congress had set in motion the events that would culminate in the creation of NASA on October 1, 1958.

But the debate was still far from over in the fall of 1958. As pointed out earlier, a portion of NASA was derived from the former National Advisory Committee for Aeronautics. But what about the new Agency's role in astronautics in the development of space launch vehicles? In October 1958 much of that expertise resided with the ABMA (Army Ballistic Missile Agency) team in

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Marshall's David Stephenson, chief engineer for the Inertial Upper Stage (IUS)/Advanced X-ray Astrophysics Facility (AXAF) and William Benshoof, AXAF project manager for Boeing, hold a plaque commemorating the delivery of the IUS vehicle for the AXAF mission to NASA. The transfer was held on Feb. 13 at Kennedy Space Center. Courtesy Photo

Marshall Instrument Yields View of the Eclipse in a New Light

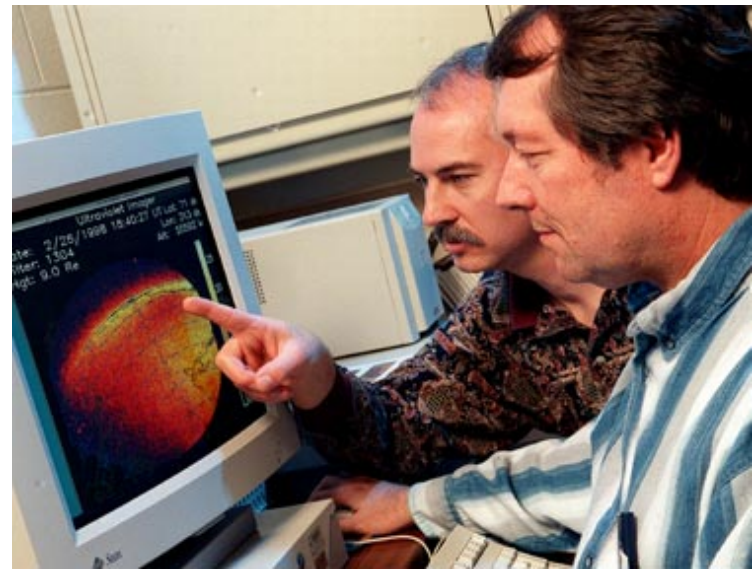
To view the full drama of last week's solar eclipse — that is, to see the total eclipse — one would have had to be in a location such as Curacao, or some other out of the way place in a narrow strip of the tropics. Or, adopt the approach of Marshall Center researcher Dr. Jim Spann, who preferred to have a vantage point about 35,000 miles above the Earth.

Spann, who is with Space Sciences Lab (SSL), used the Marshall-built Ultraviolet Imager (UVI), an instrument on the orbiting satellite known as Polar, to look down at the Earth.

"It gave a unique perspective," Spann said, referring to the fact of being able to look down on the Earth as the moon cast a shadow that moved across a region of the globe. But there were other advantages. Using the specialized capabilities of the instrument, on which Spann is a co-investigator, it was possible to look for changes in the chemistry of the upper atmosphere as air molecules were suddenly plunged into darkness, then re-exposed to sunlight.

It was the first eclipse observed with the UVI, so this method of observation represented a new scientific avenue to explore. The use of UVI in connection with the eclipse was also a new direction in another regard — providing anyone with a computer and Internet access with the opportunity to view data collection in near real time.

As SSL's Dr. John Horack put it, "Everyone in the world, from the scientists doing the research to anyone with a computer, got the exact same data at exactly the same time — live — and was able to see what was going on. We could all be scientists for



Jim Spann, Space Sciences Lab, and Richard Campbell, far right, Computer Sciences Corp., review a sequence of images captured by the Ultraviolet Imager, orbiting aboard NASA's Polar satellite, during last Thursday's solar eclipse.

a day!" It was reported that the SSL web home page received 175,000 "hits" on Feb. 26, the day of the eclipse.

Spann and other members of the UVI team are now analyzing the UVI data to see what it reveals about the complex Sun-Earth interaction. A selection of UVI images taken during the eclipse, with explanatory information, is available at the SSL website, <http://science.msfc.nasa.gov>.

Two Scholarships Offered by MMA

The Marshall Management Association (MMA) Merit Scholarship Program, an award offered by the program to recognize academic achievement and leadership qualities of sons and daughters of Marshall civil service employees and retirees, will award two scholarships worth up to \$1,500 to graduating high school seniors entering an accredited college or university in the fall of 1998.

One scholarship will be awarded to students pursuing a degree in scientific and technical areas and the other will be awarded to students in the areas of business, administration, arts and education. The scholarship recipients will be selected in May. Additional information regarding the scholarships and applications is available in Bldg. 4202, room 108, or by calling 4-9198. The application deadline is April 15.



The crew of STS-87 is scheduled to visit the Marshall Center on March 12 in Morris Auditorium where they will present STS-87 mission highlights. The crew consists of (seated from left) Steve Lindsey, Kevin Kregel, and (standing from left) Kalpana Chawla, Winston Scott, Takao Doi, and Leonid Kadenyuk. The time will be announced later and all Marshall employees and on-site contractors are invited to attend.

Courtesy Photo

NASA's 40th Anniversary Highlights Challenges of Agency's Birth

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Huntsville. "It seemed to me that we were starting [NASA] virtually from scratch and with little in the way of rocket-propelled launching systems," recalled T. Keith Glennan. Glennan served as the first NASA administrator and visited Huntsville shortly after NASA was created. "I had come to the conclusion that the nation's space program would advance most rapidly if we had working within our framework the so-called Von Braun team at Huntsville... I became convinced that the talents of this group-so dedicated to space exploration... would be a useful part of NASA."

On October 21, 1959, Eisenhower signed an executive order indicating that personnel from the Development Operations Division of the ABMA in Huntsville would be transferred to NASA, subject to the approval of Congress. The debate continued. Some of Eisenhower's critics were concerned about the potential transfer of what they believed to be a military function to a civilian agency. Events moved fast, however. On March 15, 1960, a Presidential executive order announced that the space complex within the boundaries of Redstone Arsenal would become the George C. Marshall Space Flight Center. The Army would continue the growing task of developing and providing military rockets and missile systems. Marshall would assume responsibility for providing the launch vehicles for civilian exploration of outer space. The Marshall Center was activated on July 1, 1960; the formal dedication ceremonies were held on September 8, 1960. At the ceremony, Eisenhower said he was dedicating the center in honor of his World War II military colleague and post-war statesman, General George C. Marshall.

Both NASA and the Marshall Space Flight Center stood at the threshold of America's future in space.



Two years after the creation of NASA in 1958, the space agency established the NASA George C. Marshall Space Flight Center in Huntsville. More than 4,000 U.S. Army employees working for the Development Operations Directorate of the Army Ballistic Missile Agency were transferred to the new NASA field center. The transfer ceremony, shown here, took place on July 1, 1960.

Economy

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approximately 19 per cent of NASA's total budget of \$13.7 billion. Of Marshall's \$2.6 billion allocation from NASA, \$1.5 billion was spent for Human Space Flight activities, \$713 million went for Science Aeronautics and Technology, and the balance — \$379 million — was spent on mission support at Marshall Center and other sites across the country.

Since it was established in 1960, the Marshall Center has had budget responsibility for a total of \$60 billion. When year-by-year figures are adjusted for inflation, this total is equivalent to more than \$147 billion in 1997 dollars.

The Marshall Center has paid \$4.4 billion in federal salaries during the past 37 years.

At the end of September 1997, the Marshall Center had a total of 2,920 Civil Service permanent and temporary employees, including employees at resident offices at prime contractors' facilities and at the Michoud Assembly Facility in Louisiana.

Of Marshall's total Civil Service workforce last year, 2,347 were college graduates, with 1,703 holding baccalaureate degrees. There were 147 employees at the doctoral level and 497 with master's degrees in fields of engineering, science (predominantly mathematics and physics), and other disciplines, predominantly business administration.

During the past fiscal year, approximately 29,400 contractor personnel were engaged in work for the center, including 2,800 in mission support; 10,484 on prime contract work; and 16,075 as subcontractors and vendors. Of the total, some 7,400 work in Alabama. An additional 2,163 contractors were associated with International Space Station work being done by Boeing in Huntsville, and other agency contracts not previously mentioned.

In fiscal year 1997, 206,989 individuals toured the Marshall Center, including educators; civic, conference and symposia visitors; and news media. Of those visitors, 178,165 toured the center as part of the U.S. Space and Rocket Center's bus tour program.



President Eisenhower, center, presents the charter for the establishment of NASA on October 1, 1958, to T. Keith Glennan, right, and Hugh Dryden, left. Glennan served as NASA's first administrator. Dryden was the agency's first deputy administrator.

Upcoming Events

Marshall Center's Open House '98 Set for May 16

The Marshall Center Open House is scheduled for 9 a.m. to 6 p.m. May 16. Visitors will be able to see the Space Station being built, meet astronauts, see rocket tests and visit Mission Control Huntsville, in addition to a host of other exciting activities.

The official homepage for Marshall's Open House is up and running. Visitors to the site can volunteer for the event, peruse the exhibiting organizations' homepages, or look up Marshall Open House policies and guidelines. The web address is: <http://www.msfc.nasa.gov/openhouse/> or for more information on the open house, visitors may call 1-888-901-NASA.

Spot an Environmentalist

Until March 31, Center employees are invited to help the Marshall Recycling Committee to "Spot an Environmentalist." Contact Ted Ellett at 4-4778 or Doug Danley at 4-4770 with the name, mail code, and telephone number along with a brief description of the environmentally safe act you saw. Winners will receive gift certificates to Wild Birds Unlimited.

Annual Retiree Dinner Set for March 24 at Von Braun Center

The annual dinner honoring Marshall Center retirees is scheduled for March 24 at the Von Braun Center. A social will begin at 6 p.m. in the West Exhibit Hall followed by dinner at 7 p.m. in the North Hall. The program will begin at 8 p.m. Tickets cost \$15 each and may be purchased from administrative officers. Entertainment will feature performances by Marshall's own Sheila Cloud, Sid Saucier, Dave Bates, Jim Kennedy, Joel Kearns, Paul Allison, Murray Castleman, Rick Bachtel and other talented Marshall employees. For more information on the Retiree Dinner, please call Edwina Bressette at 4-8115.

ISO 9001

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in response to a challenge issued by NASA Administrator Daniel S. Goldin in 1996. The recommendation for certification caps a two year effort at Marshall.

"We are leaders in the world of space and technology. We must also be leaders in the world of quality," said Goldin.

"Marshall's Quality Management System is designed to deliver quality products and services to our customers," said Griner. "As an organization, we are committed to pursuing excellence, maintaining quality, safety and reliability standards and recognizing the importance of our people."

"This recommendation for registration verifies that our plan measures up to standards established and accepted by the international community," said Griner. "Moreover, this recommendation confirms what we've known for a long time - Marshall Space Flight Center is truly a world-class organization."

Griner said ISO 9001 certification will help Marshall keep in step with numerous certified companies across the United States.

"This spring, Marshall will be test-firing a propulsion system for Lockheed-Martin, and compliance with ISO standards is a requirement of our contract with them."

Bob Schwinghamer, Marshall's associate director, technical, led the Center's quality certification efforts as the ISO management representative.

"I am truly exhilarated," said Schwinghamer. "I've been at Marshall for more than 40 years. This center-wide effort is totally in character. The Marshall Space Flight Center team always comes through when they have to. And they've done it again."

"The Center did well and everyone at Marshall is to be commended for reaching this milestone accomplishment two months ahead of schedule. The auditors were tough, but fair. And again, Louis Pasteur's axiom has been validated: 'chance has favored the prepared minds.'"

Applications Available For Five Scholarships

Applications are being accepted for five \$2,000 scholarships annually awarded to dependents of employees throughout NASA. Applicants must be pursuing a course of study in a science or engineering field. All applications must be received by March 31. Contact Carol Wasserman at 4-7220.

Obituaries

Wu, Shih-Tseng,

61, died Feb. 16.

Wu started working at the Marshall Center on Oct. 4, 1992, and at the time of his death, he worked at the Global Hydrology and Climate

Center as a research scientist in the Remote Sensing area of the Earth System Science Office. Wu is survived by his wife Hsiu-May, and three daughters, Amy Wu of New York City, Karin Wu Williams of Houston, and Kay Wu of San Francisco.



Dr. Shih-Tseng Wu

Daniels, Jan, 62, died March 2. Daniels

had just retired from NASA on Feb. 24. He started working at the Marshall Center on June 2, 1962.

When he retired, Daniels worked in the Configuration Management

Division, Systems Analysis and Integration Laboratory.

Funeral services are scheduled for today at 11:30 a.m. at Spry Funeral Home. He is survived by his wife Jo Ann Daniels, and two daughters, Stephanie and Elisa Daniels, both of Huntsville, and his parents, Mr. and Mrs. O.R. Daniels of Oakvale, Miss.



Jan Daniels

Employee Ads

Miscellaneous

- ★ Wood heater Ashley, \$150. 586-7424
- ★ Ponsness/Warren 20 gallon progressive shotshell reloader, model 600, \$160. 233-5247
- ★ Glaspar 17ft. runabout, 115HP Johnson with power trim, walk-thru windshield, depth finder, \$1,450. 883-8257
- ★ Tires, 5 lug, buggy wheels, 31 x 50 R15LT M15, Less than 100 miles. 753-2583
- ★ Working antique Singer sewing machine, black iron base, 6-drawer wood cabinet, accessories included, \$200. 722-9407
- ★ 2-tickets, Broadway production "STOMP" VBC concert hall, concert loge, March 15, 2 p.m., \$20 o.b.o. 881-0278
- ★ Baby items: 4-n-1 stroller, \$55; Snugli harness carrier, \$15; walker, \$15; and bottle steamer, \$15. 722-9407
- ★ Piano Wurlitzer upright, \$750. 353-3229
- ★ Diaper Genie w/refill, \$15, Fisher-Price both highchair and bathtub \$15 ea.; Gerry monitor, \$18. 721-0764
- ★ Nokia model 2160 digital/analog cellular phone, leather case, \$65. 882-1780
- ★ Camelback sofa, matching wingback chair, small shell, kingsize comforter set, misc. lamps/pictures. 837-6123
- ★ New wide carriage dot matrix printer, serial connection, no ribbon, \$20 or best offer. 233-5247
- ★ Ray Jefferson marine radio with Shakespeare, 8ft. antenna and mount, will sell separately. 837-5782
- ★ Range top hood and kitchen sink, all harvest gold, \$100; GE undercounter dishwasher, \$50. 881-6040

Vehicles

- ★ 1996 Pontiac Trans Sport van, \$12,500. 830-8339
- ★ 1988 Plymouth Voyager, 6 cyl., 7 passenger, one owner, 98K miles, \$3,900. 882-1382
- ★ 1987 Oldsmobile Delta88 Royale Brougham, 101K miles, power, tilt, cruise, hitch, \$2,500 o.b.o. 430-0549
- ★ 1991 Ford Taurus GL, V6, 4-door, AC/PW/PL, AM/FM cassette, one owner, 119K miles. 830-8354
- ★ 1986 Lincoln Towncar signature series, 130K miles, some body damage, \$1,600
- ★ 1971 Chevrolet Impala, 4-door, 2nd owner, 50K original miles, \$1,600

Wanted

- ★ Rear grass bagger for 28 inch Snapper rear engine mower. 851-2929
- ★ Twin stroller, side-by-side style. 722-9407
- ★ Lily Flagg pool membership. 883-2757
- ★ Motorized treadmill. 931-433-6705

Found

- ★ Gold oval earring found in Bldg. 4203 in front of elevators, 1st floor, several weeks ago. 4-2722
- ★ Small change purse found in building 4481, call 4-4758 to identify.

Lost

- ★ Man's 14K gold 8 inch Figaro link bracelet. Lost in 4200 complex Feb. 24. 772-7641

Center Announcements

- ★ **MARS Dance Club** —The MARS Ballroom Dance Club will offer Rumba and Single Swing lessons (\$10 per person) from 7 to 8 p.m. March 9, 16, 23 and 30. The classes will be held in the Parish Hall of Saint Stephen's Episcopal Church at 8020 Whitesburg Drive. For more information call Pat Sage at 544-5427; for a membership application, call Linda Kinney at 544-0563.
- ★ **Technology Day** —NASA employees are invited to attend the Lockheed Martin Technology Day at the G-13 Conference Room in Bldg. 4200 on March 12. Exhibits will be held from 8:30 a.m. to 3:30 p.m., to include the lunch period. Technical representatives will be available for discussions the entire day. Please show your NASA badge for entrance.
- ★ **EAP Lunch & Learn** —MSFC's Employee Assistance Program will offer a Lunch & Learn Seminar, April 1, 12 noon to 12:45 p.m. in the Morris Auditorium on the topic "Decreasing One's Risk of Skin Cancer." Dr. John K. Sowell, a Huntsville dermatologist, will be the speaker. All Marshall employees, on-site contractor and family members are invited to attend.
- ★ **MMA** —The Marshall Management Association will sponsor a luncheon on March 5 at 11:30 a.m. at the Rustic Lodge in the Redstone Civilian Recreation Area. A membership drive is currently underway. The dues are only \$25 annually, which is used to fund scholarships for the children of MSFC employees. Checks can be sent to Jerry Williams at GP31. The luncheon is open to all employees, contractors, and retirees. The cost for the luncheon is \$10, payable at the door. Contact Jerry Williams for reservation at 4-0295 or via e-mail.
- ★ **MARS Golf Club** —The 1998 MARS Golf Club tournament will be held March 14 at Chesley Oaks. The format for this event will be 4-ball (2-player teams, better ball) and is open to all employees and retirees. The tournament will be flighted based on handicaps and you select your own partner. Entries must be received by 12 noon March 6 and the entry fee is \$4. Green fees will be paid at the course. The following individuals serve as entry contacts: L. Foster (4-

1589), J. Butler (4-3808), J. Loose (4-2422), and R. Harwell (4-2684). For additional information call P. McKinnon.

- ★ **MSFC Softball Club** —The Softball Club will meet March 12 at 12 noon in building 4752 in the all-purpose room. Players looking for a team need to attend as well as team representatives. For more information contact Rhonda Pepper at 4-5432 or at rhonda.pepper@msfc.nasa.gov.
- ★ **AFGE** —The AFGE Local 3434 monthly meeting will be held on March 10 at 11:30 a.m. to 12 noon in building 4200, room P-106.
- ★ **Public Inquiries** —Please visit the Public Inquiries Office located in Bldg. 4200, room 101. Among new items is a wonderful, colorful and informative brochure on how to access information from the Space Science Laboratory on the web. Other publications and handouts related to Marshall and NASA are available.
- ★ **MARC** —The Marshall Amateur Radio Club will meet March 5 at 4:30 p.m. in Bldg. 4622. The MARC is open to all NASA employees, on-site contractors and their families. For more information call Scott Akridge at 544-1510.
- ★ **Facilities** —The Facilities Retirement Breakfast will be March 10 at Shoney's at the corner of University and Parkway at 8 a.m.
- ★ **Annual Easter Egg Hunt** —Volunteers are needed to help with the annual NASA Exchange-sponsored Easter Egg Hunt scheduled for April 5 at 2 p.m. In case of rain, the event will be held April 11. Children of Marshall employees and on-site contractors may participate. Contact Gena Marsh, 4-0128 or Donna Mahieux, 4-7511.

Thank You

Donation of Leave — A special thanks to everyone for the leave donated during my recent lengthy illness. I appreciate your kindness and generosity.

Vickie J. Ivey

Job Opportunities

CPP 98-30-MB, IFMP Training Program Coordinator, GS-301-12/13, Customer & Employee Relations Directorate. Closes March 12.

Reassignment Bulletin 98-6-RE, AST, Navigation, Guidance, and Control Systems, GS-861-11/12/13 (2 vacancies), Program Development, Preliminary Design Office, Avionics & Propulsion Systems Division, Navigation & Control Systems Team. Closes March 9.

CPP 98-33-RE, Secretary (OA), GS-318-8, Science & Engineering Office of Director. Closes March 12.

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